LAC+USC Medical Center | Bed Tower Feasibility Study

Steering Committee Monthly Briefing

DECEMBER 18, 2014

LBL ARCHITECTS

Today's Agenda

1. 10:00
   Introduction
   Progress Overview

2. 10:05
   Interview Themes
   Market Review
   Next Steps

3. 10:35
   Chiller Capacity Study

4. 10:40
   Parking Management

5. 10:45
   IT Infrastructure

6. 10:50
   60 Day Look-ahead

7. 10:55
   January Meeting Topics,
   Discussion and Adjourn

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LBL Team in Attendance

Ken Lee, LBL

Boon Lim, LBL

Gary Goldberg, LBL

Craig Acosta, Kurt Salmon

Ross Armstrong, Kurt Salmon

Ejiofor Nnaemeka, Kurt Salmon

Aki Hiruma, ME-Engineers

ACTIVITIES IN PROGRESS

PROGRESS OVERVIEW

Currently in Progress

- Semi-monthly LBL/DPW briefings (ongoing, 1st and 3rd Mondays)
- Parking investigations
- Chiller capacity study and recommendations
- Activity begun since last Monthly Steering Committee
  - LBL team on-site visit
  - Interviews with administrative, clinical and support staff
  - Preliminary analysis of available data and interview findings
  - Surveys, geotechnical and utility investigations, and site infrastructure studies

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PROGRESS OVERVIEW

- Kurt Salmon data requests outstanding
  - Information being collected by Medical Center
  - Completion projected for early January
- Other LBL team data requests maintained in actively updated tracking log

- **Current schedule for Feasibility Study completion: April 30, 2015**

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INTERVIEW STATUS

- Primary focus to date has been on clinical and administrative staff
- 42 persons interviewed in 28 sessions
- One hour format, open-ended discussion
- Perspectives on process, staffing, patient throughput, service quality
- Interviews conducted to date:

Wednesday December 3

1:30	Bonnie Bilitch RN, Chief Clinical Operations Officer	Clinical Administration
3:00	Danny Amaya	Diagnostic Services

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INTERVIEW STATUS

Tuesday December 9

7:00	Ron Ben-Ari MD (Internal Medicine)	Medicine
8:00	Andrew Young MD (Hospitalist)	Medicine
10:00	Greg Van Dam Kimberly Kilpatrick	Clinical Engineering Food and Nutrition
10:00	Colin Dias MD (Chief)	Psychiatric Service
11:00	Howard Belzberg MD (Critical Care) Ira Shulman MD (Labs and Pathology) Matt Dunn MD (Urology)	Critical Care Pathology and Laboratory Services Urology
1:00	Brad Spellberg MD (CMO)	Medical Administration
2:00	Bharat Chaudry MD Barbara Rubino MD	Outpatient Services Resident
2:00	Henry Ornelas, COO	Hospital Administration
3:00	Fernando Bravo	Patient Relations
4:00	Dan Castillo, CEO	Hospital Adminstration
4:00	Glen Ault MD	Surgery

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INTERVIEW STATUS

Wednesday December 10

7:00	Rudy Amaya, MD	Anesthesia
8:00	Allan Gerber Peter Teodoro	Environmental Services Facilities Operations
8:00	Demetrios Demetriades MD (Trauma)	Surgery
9:00	Eric Hsieh MD	Medicine
9:00	Kinly Kao, Chief Technology Officer	Information Systems
10:00	Dr Vasquez (Comm'ty Care/Urgent Care Clinic) Henry Kim MD (Med Dir, ER) Rebecca Trotzky-Sirr MD (Urgent Care) Wei An Lee MD (Specialty Care Director)	Clinics Emergency Medicine Urgent Care Clinics
11:00	Mark Corbet, CFO	Hospital Administration
12:00	Edward Grant MD (Chair Radiology) Sue Hanks MD (Service Chief)	Radiology Radiology
1:00	Leonor Bango Behnaz Hekmatnia Sandy Correa Chris Arevelo	Psychiatric Services Administration Outpatient Services Administration Pediatrics Hospital Administration

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INTERVIEW STATUS

Wednesday December 10

2:00	Lawrence Opas MD (Chair) Cynthia Stotts MD Jeffrey Johnson MD	Pediatrics Pediatrics Pediatrics
2:00	Paul Holtom MD	Epidemiology
3:00	Marie Pecson	Surgical and Anesthesiology Services
3:30	Laila Muderspach, MD	OB/GYN
4:00	Margaret Berumen (Administrator, Managed Care)	Administration
6:00	Jagruti Shukla, MD (Primary Care Medical Director)	Primary Care

Interviews – Pending

	Jennifer Sayles	Population Health
	Isabel Milan, CNO	Nursing Administration
	Sanford Melnick	Pharmacy
	Larry Schneider	Outpatient Services
	Anna Otero	Supply Chain Management
	Cecil Clark	Support Services
	Mark Ghaly MD	DHS Administration
	Christina Ghaly MD	DHS Administration

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Interview Themes and Key Priorities

Key Planning Priorities

- Interviews with executive, clinical, and departmental leadership, provided us with numerous ideas for planning priorities for the LAC+USC campus. Most of the interviewees believe an acute care bed tower is not a high priority for the campus.

  These are the priorities expressed by those interviewed:

  - Expanding and redesigning primary care is key to be able to accept new patients that are currently being directed to LAC+USC and allow the organization to accomplish its vision for population health management
  - Creating an ambulatory surgery center to help accommodate backlog, enhance patient experience and increase competitiveness in the market
  - Developing a comprehensive plan for behavioral health services that integrates care across the continuum (ED, inpatient, observation, post-acute, and outpatient)
  - Addressing current shortages in select diagnostic services to service inpatient and outpatient orders in a timely manner
  - Providing an appropriate distribution of beds: general med/surg, stepdown, ICU, post-acute, psych, and observation

Interview Themes

- Inpatient Services
  - Broadly expressed opinion that adding 150 beds to the LAC+USC campus is unlikely to address current issues and position the organization for the future
    - A significant number of inpatient beds are being used to address ambulatory access issues, a lack of post-acute services, and for patients that do not have a proper home environment in which to be discharged
    - Expanding inpatient beds without fixing these other issues only exacerbates the problem
  - Behavioral Health services reportedly need additional capacity and patients are being housed for significant periods of time in the ED – BH solution may include inpatient beds, observation, and outpatient access
    - Varying perspectives on whether additional inpatient beds should be provided for behavioral health services and the location of the services
  - ICU capacity is currently adequate with need trending upward, but reportedly more step-down beds are needed,
  - Obstetrics and pediatrics beds are underutilized; volumes in these services are declining, perhaps due in part to increased patient choice with Medi-Cal expansion

Interview Themes

- Primary and Specialty Care Clinics
  - Currently, LAC+USC is in the process of redesigning the way primary care is delivered
    - Believe significant reductions to inpatient and ED utilization can be made over time
    - The OPD is a roadblock to care redesign (e.g., phones do not work physician have a single combined office and exam room, lack of diagnostics and ancillaries, difficult access)
  - Primary care is significantly over capacity
    - Goal panel size is 1,600 per primary care FTE and currently empanelled at ~3,500 per FTE
  - 2,000 Medi-Cal patients per month present to LAC+USC without a PCP. Currently, primary care is over subscribed so LAC+USC is unable to take the additional patients
  - The IM residency program is the largest in the country and the physicians do not want to expand it
  - LAC+USC is challenged in keeping residents and recruiting new physicians by salaries significantly below market
  - Most interviewees prefer that the IM resident clinics remain on site since they are also spending significant time in the hospital

Interview Themes

- Diagnostic and Treatment Services
  - Imaging and Other Diagnostics
    - Significant backlogs in diagnostics attributed to a host of reasons:
      - Inappropriate imaging being ordered (Cerner decision support should help)
      - Limited number of radiologist to conduct reads (e.g., CT, mammography)
      - Limited number of staff (e.g., echo, treadmill, CT)
      - Limited equipment (e.g., MRI)
        - » Potential to resolve MRI need through a community solution
    - Length of stay in the ED and inpatient units is increased significantly because of imaging wait times
    - Outpatient wait times are excessively long (12 weeks for CT and 30 weeks for MRI). This contributes to high “no show” rate
  - Surgery
    - Backlogs currently caused by lack of anesthesia, staff, and inpatient OR capacity
      - Two sizes of rooms and the smaller rooms limit the types of surgeries that can be conducted
      - Shifting OP surgery to an ASC would allow more inpatient surgery to occur in main ORs
    - An ambulatory surgery center would enhance the experience for outpatients and help USC+LAC be more competitive in the market

Interview Themes

- Support Services
  - Automated line in the lab reportedly needs to be replaced before 2018
  - Existing non-clinical support services (e.g. food and nutrition, clinical engineering) have adequate capacity and can be expanded space/staff- wise to meet potential future inpatient or outpatient expansion
- Market Dynamics and Other Considerations
  - Increase in insured patients due to healthcare reform has not significantly reduced demand at LAC+USC
  - Cerner launch in May 2015 is expected to address some of the challenges associated with data tracking
  - Across inpatient, outpatient, and diagnostic services, there are significant staffing shortages and operational issues which outweigh the issues associated with physical capacity
  - The lack of access to infusion services has resulted in a significant number of these patients being admitted to ensure their infusions happen when required

Market Review

LAC Patient Discharges

Primary Service Area was determined by aggregating the zip codes responsible for 75% of all inpatient discharges in FY2013

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Market Assessment Population Growth and Aging

- The LAC+USC's PSA is projected to have modest population growth over the next 10 years.
  - The population is aging with growth only occurring in the 45+ age cohorts
    - The aging of the population will be a factor in the future utilization of healthcare services at LAC+USC
  - Females of child bearing age in the PSA will decline over the next 10 years, impacting the number of babies born in the market

PSA Population Change by Age Cohort, 2014-2024

Age Cohort	2014	2024E	# Chg. (14-24)	CAGR (14-24)1
0-17	860,151	847,534	(12,617)	(0.1%)
18-44	1,389,883	1,378,011	(11,872)	(0.1%)
45-64	767,904	892,683	124,779	1.5%
65-84	300,523	426,297	125,774	3.6%
85+	44,857	45,679	822	0.2%
Total	**3,363,318**	**3,574,968**	**211,650**	**0.6%**
Female 15-44	*751,484*	*737,321*	*(14,163)*	*(0.2%)*

Los Angeles County Population Change by Age Cohort, 2014-2024

Age Cohort	2014	2024E	# Chg. (14-24)	CAGR (14-24)1
0-17	2,369,357	2,342,686	(26,671)	(0.1%)
18-44	3,970,635	3,962,909	(7,726)	(0.0%)
45-64	2,526,659	2,848,316	321,657	1.2%
65-84	1,028,821	1,512,616	483,795	3.9%
85+	162,412	166,949	4,537	0.3%
Total	**10,057,884**	**10,790,123**	**732,239**	**0.7%**
Female 15-44	*2,170,584*	*2,136,239*	*(34,345)*	*(0.2%)*

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Source: Claritas 2014, US Census
Note: Equation for CAGR is D = ((B/A)^(1/10))-1

LA County Utilization Rates

- LAC+USC population health management strategy has the potential to significantly impact its future need for clinical services
  - There is the potential for a significant decrease in the need for inpatient beds and diagnostic and treatment services in the future

Utilization Benchmarks for Los Angeles MSA[1]

	Medi-Cal			Composite Payor Mix		
Category	**Current LA County Utilization**	**LA County Well Managed 2**	**Percent Decrease**	**Current LA County Utilization**	**LA County Well Managed 2**	**Percent Decrease**
Inpatient Discharges	64	52	(19%)	95	72	(24%)
Inpatient Psych Discharges	4.4	1.8	(59%)	5.8	2.5	(57%)
Inpatient Surgery	19	17	(11%)	26	22	(15%)
Ambulatory Surgery	96	54	(44%)	81	43	(47%)
CT (inpatient and outpatient)	80	35	(56%)	110	48	(56%)
MRI (inpatient and outpatient)	53	20	(62%)	52	19	(63%)
Cath (Diagnostic and Interventional)	4.2	3.9	(7%)	6.5	4.2	(35%)

- Note 1: Utilization is measured in cases per 1,000 members
- Note 2 : Milliman's Well Managed use rates are existing national "best of breed" use rates that have LA County's payer mix and demographics applied to them.
- Source: Milliman actuarial data for Los Angeles market

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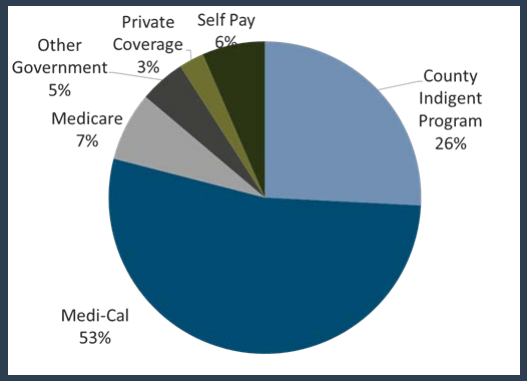
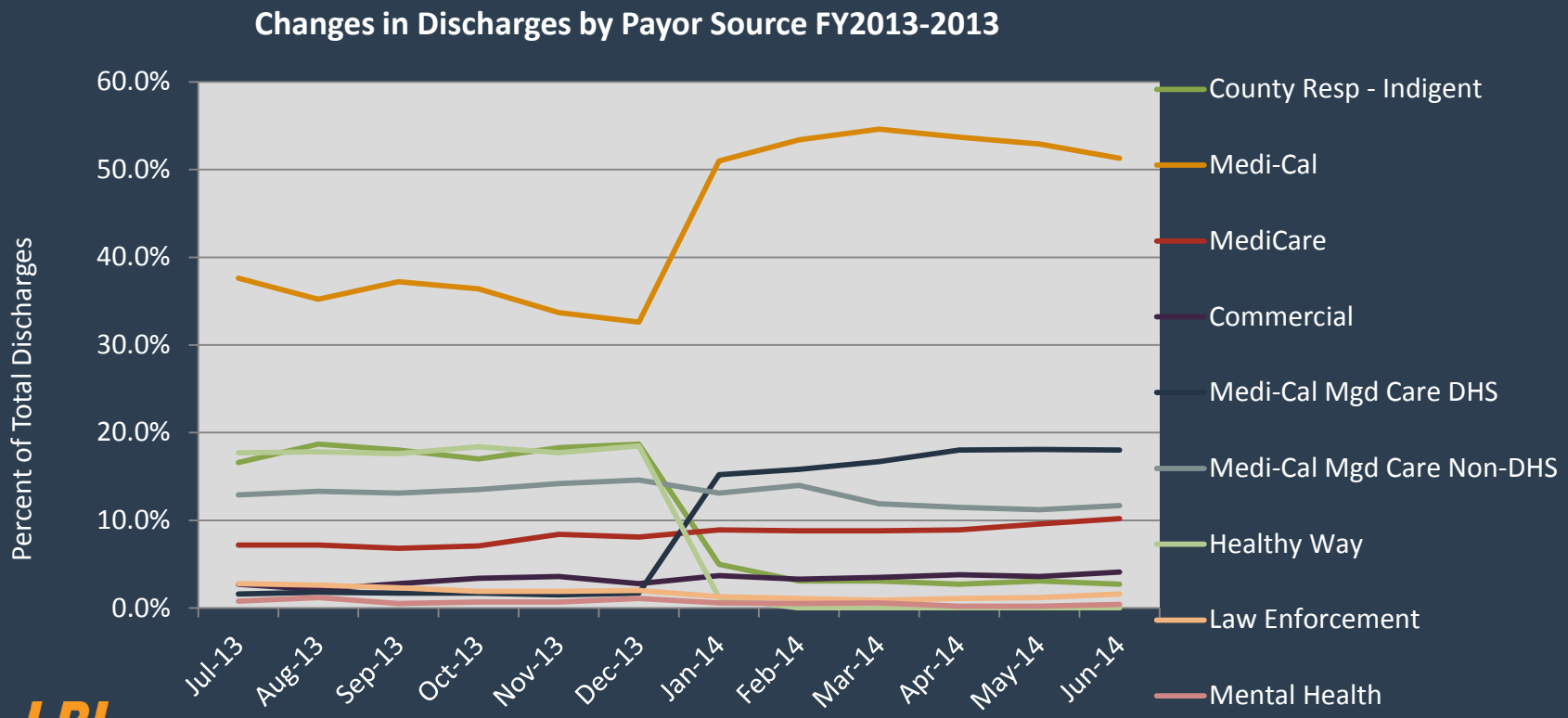
Discharges by Payor Source



Following the implementation of the ACA, there was a significant shift in reimbursement with most of the County-Responsibility and Healthy Way LA lives moving to Medi-Cal

- The shift to Medi-Cal, likely means additional information (claims data) is being captured on these patients and they can be better managed



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Medi-Cal Attribution: The Current Situation

- Managed Medi-Cal Patient Attribution
  - Currently, 75% of the new managed Medi-Cal patients within the LAC+USC market that do not have a primary care provider are attributed to LAC+USC
  - In 2015 50% of the new managed Medi-Cal patients without a primary care provider will be attributed to LAC+USC
  - To date, this has resulted in 2,000 patients per month being attributed to LAC+USC
  - LAC+USC currently has 30,000 full-risk Medi-Cal managed care patients empanelled
  - Primary care is over subscribed and now the Medi-Cal managed care organizations must redirect all patients that would be empanelled by LAC+USC
  - LAC+USC has had a very high retention rate for their empanelled Medi-Cal patient population

Medi-Cal Expansion Impact

L.A. Care HEALTH PLAN

Health Net

2,000 Patients per Month (2014)

LAC+USC PCPs

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Medi-Cal Attribution: Implications

- Many of the patients that now have Medi-Cal as a result of Medicaid expansion are likely patients that were already receiving care at LAC+USC (and may continue to in the future)

1. Fee-For-Service Medi-Cal Patient	2. Full-Risk Medi-Cal Managed Care Patient that utilizes LAC+USC Hospital Services	3. Full-Risk Medi-Cal Managed Care Patient that is healthy or well-managed
 ($)	 ($)	 $
Lose money on patients that receive care at LAC+USC Hospital	Lose money on patients that receive care at LAC+USC Hospital	Make money on these patients

  - Under current payment mechanisms, growing the third patient type is the only way for LAC+USC to make money on Medi-Cal patients. This can be done by:
    - Ensuring there is sufficient primary care physicians to provide access to full-risk Medi-Cal managed care patients
    - Better managing existing full-risk Medi-Cal managed care patients and shifting them from the second patient type to the third
      - Better managing the Medi-Cal fee-for-service patients is also financially favorable as it would decrease the losses experienced by the hospital

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Next Steps

Next Steps

- Discuss future direction for the master plan and planning priorities
- Complete capacity analysis for key clinical services
- Develop volume projection model to project clinical needs over the next ten years
- Establish future key room needs on the campus
- Next Steering Committee meeting on January 15, 2015

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Appendix

LAC+USC Primary Service Area

LAC+USC Primary Service Area Zips			
90001	90021	90057	90660
90002	90022	90058	90670
90003	90023	90059	91702
90004	90026	90062	91706
90005	90027	90063	91731
90006	90028	90065	91733
90007	90029	90201	91744
90008	90031	90240	91745
90011	90032	90241	91746
90012	90033	90242	91754
90013	90037	90255	91755
90014	90038	90262	91770
90015	90039	90270	91776
90016	90040	90280	91790
90017	90042	90601	91801
90018	90043	90606	91803
90019	90044	90640	
90020	90047	90650	

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MEP UPDATE

- MEP system operational data collection in progress
  - Collected 90% of requested data as of end of November ‘14
  - Initial data analysis completion end of second week in January ‘15
- Cooling tower thermal performance test in progress
  - Field test completion by end of December ‘14
  - Initial report due second week of January ‘15
- Review of additional chiller options in progress
  - Researching available real estate for locating chiller plant

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PARKING UPDATE

- Internal study 2013 (spearheaded by Henry Ornelas & his group)
  - Looking to schedule patients for more focused time periods
  - Staff guidance to patients where to park
  - Website with parking availability in progress
  - Improve wayfinding signage to better direct patients
  - Employee TDM program could be improved
  - Student parking issue is getting better
- Open to bringing in parking operator to manage parking
- Open to investigating parking guidance system
- Lot 10 is 80% utilized with shuttle transportation to hospital

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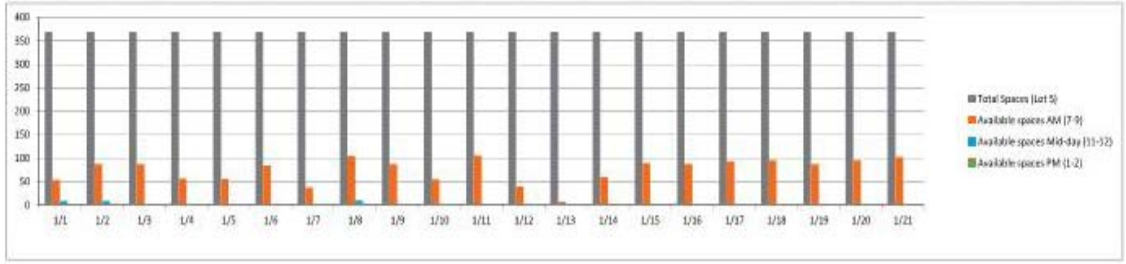
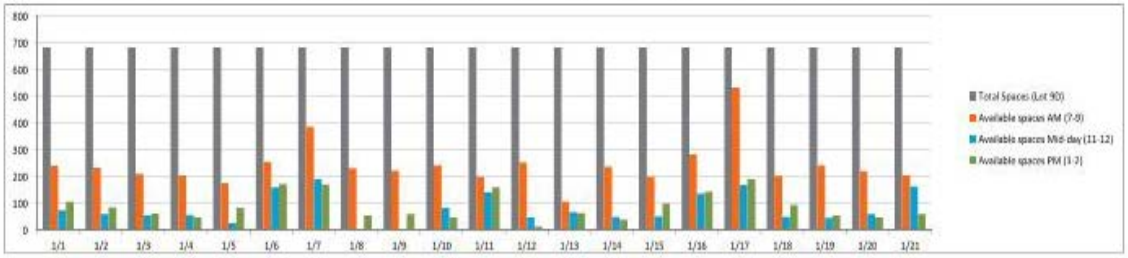
PARKING UPDATE

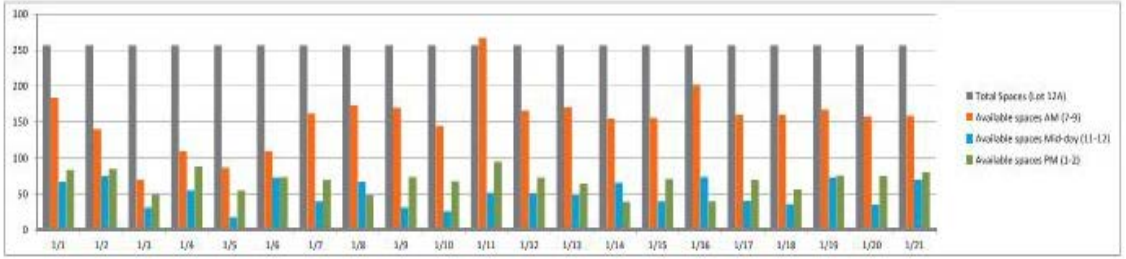
Date	8/1	8/4	8/5	8/6	8/7	8/8	8/11	8/12	8/13	8/14	8/15	8/18	8/19	8/20	8/21	8/22	8/25	8/26	8/27	8/28	8/29
Total Spaces (Lot 5)	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369
Available spaces AM (7-9)	54	87	87	57	56	85	38	104	87	55	106	40	7	60	90	87	94	95	87	95	103
Available spaces Mid-day (11-12)	9	9	1	2	1	0	0	10	0	2	1	0	0	0	0	2	0	0	0	0	2
Available spaces PM (1-2)	2	1	2	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	0	2



Date	8/1	8/4	8/5	8/6	8/7	8/8	8/11	8/12	8/13	8/14	8/15	8/18	8/19	8/20	8/21	8/22	8/25	8/26	8/27	8/28	8/29
Total Spaces (Lot 9D)	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684	684
Available spaces AM (7-9)	241	236	212	207	179	256	389	233	224	244	201	254	109	239	201	285	534	205	245	223	206
Available spaces Mid-day (11-12)	76	62	57	59	29	162	193	7	6	84	143	48	69	51	53	138	172	52	47	61	166
Available spaces PM (1-2)	109	87	64	49	85	175	173	56	62	50	161	16	65	40	101	146	192	95	55	50	62



Date	8/1	8/4	8/5	8/6	8/7	8/8	8/11	8/12	8/13	8/14	8/15	8/18	8/19	8/20	8/21	8/22	8/25	8/26	8/27	8/28	8/29
Total Spaces (Lot 12A)	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257
Available spaces AM (7-9)	184	140	70	110	87	110	162	173	170	145	267	166	171	155	156	202	160	160	167	158	159
Available spaces Mid-day (11-12)	67	75	31	55	18	73	40	67	31	26	52	51	49	66	40	74	41	36	73	35	70
Available spaces PM (1-2)	84	85	50	88	55	74	70	49	74	68	95	73	64	39	71	40	70	56	76	75	80



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INFORMATION TECHNOLOGY UPDATE

- D&T Building
  - Primary Data Center on 2nd floor
  - Hub for Clinic and Inpatient Building
  - Hub for future 150-bed Tower *(required conduit connections)*
  - Fiber & copper connection and conduit pathway *(Tel. Exchange Room, IPT, Clinic Tower, General Hospital, OPD, at&t/Time Warner services across Marengo Street)*
- Outpatient Building (OPD)
  - Secondary Data Center on Basement *(serving DHS finance and HR)*
  - Data Center will require relocation if demolition occurred
  - No existing outside plant technology cabling in the courtyard between OPD and D&T Buildings

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INFORMATION TECHNOLOGY UPDATE

- Others in D&T Building
  - VOIP Call Managers
  - Overhead Paging System
  - CATV *(patient television system)*
  - Fiber & copper connection and conduit pathway *(Tel. Exchange Room, IPT, Clinic Tower, General Hospital, OPD, at&t/Time Warner services across Marengo Street)*
- Pilot Project – Distributed Antenna System (DAS)
  - In General Hospital Building
  - Working with Verizon to expand current system
  - Will require DAS for the new 150-bed Tower *(to provide emergency radio communications for ambulance/EMS and Fire Department)*

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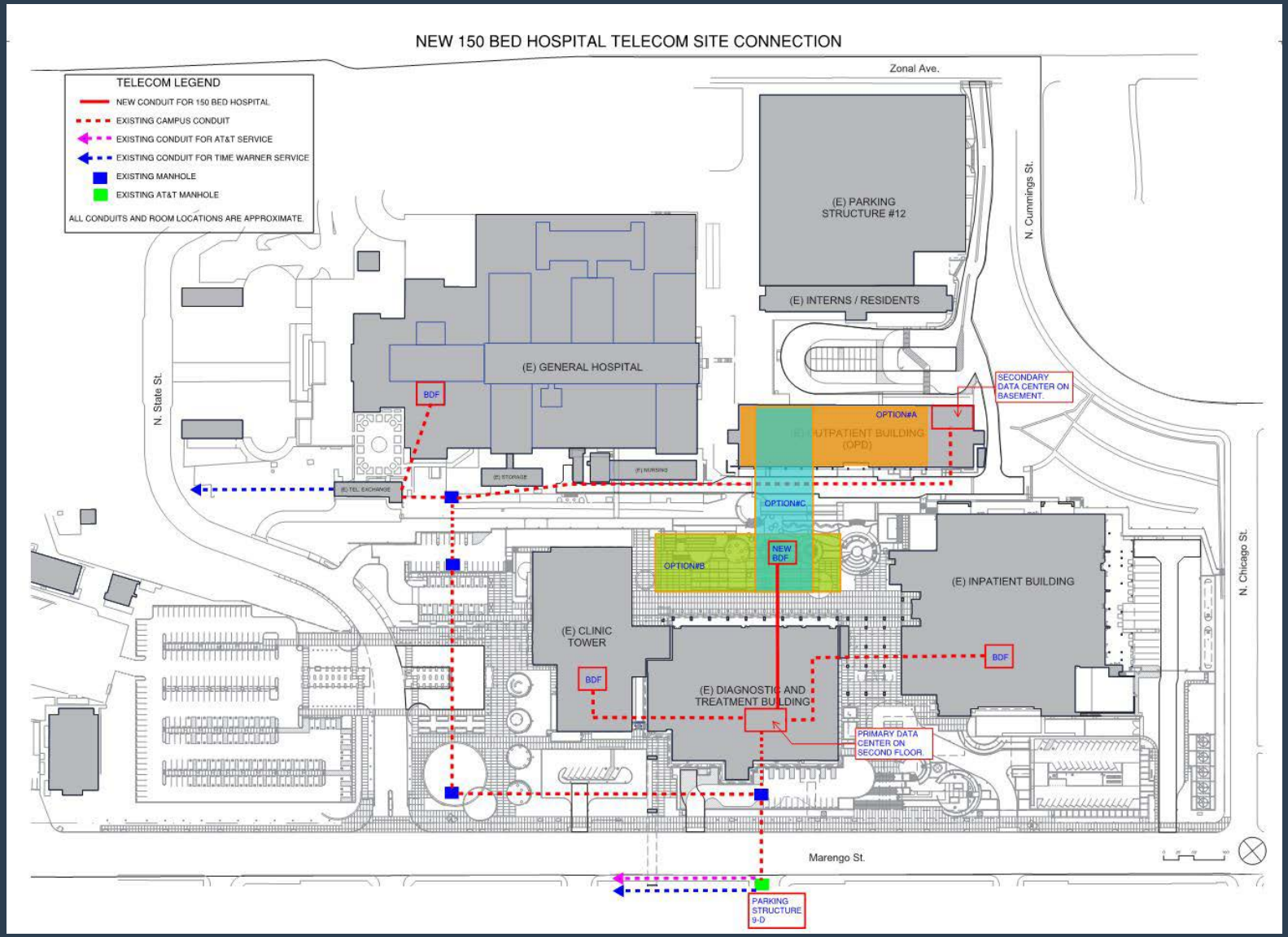
INFORMATION TECHNOLOGY UPDATE



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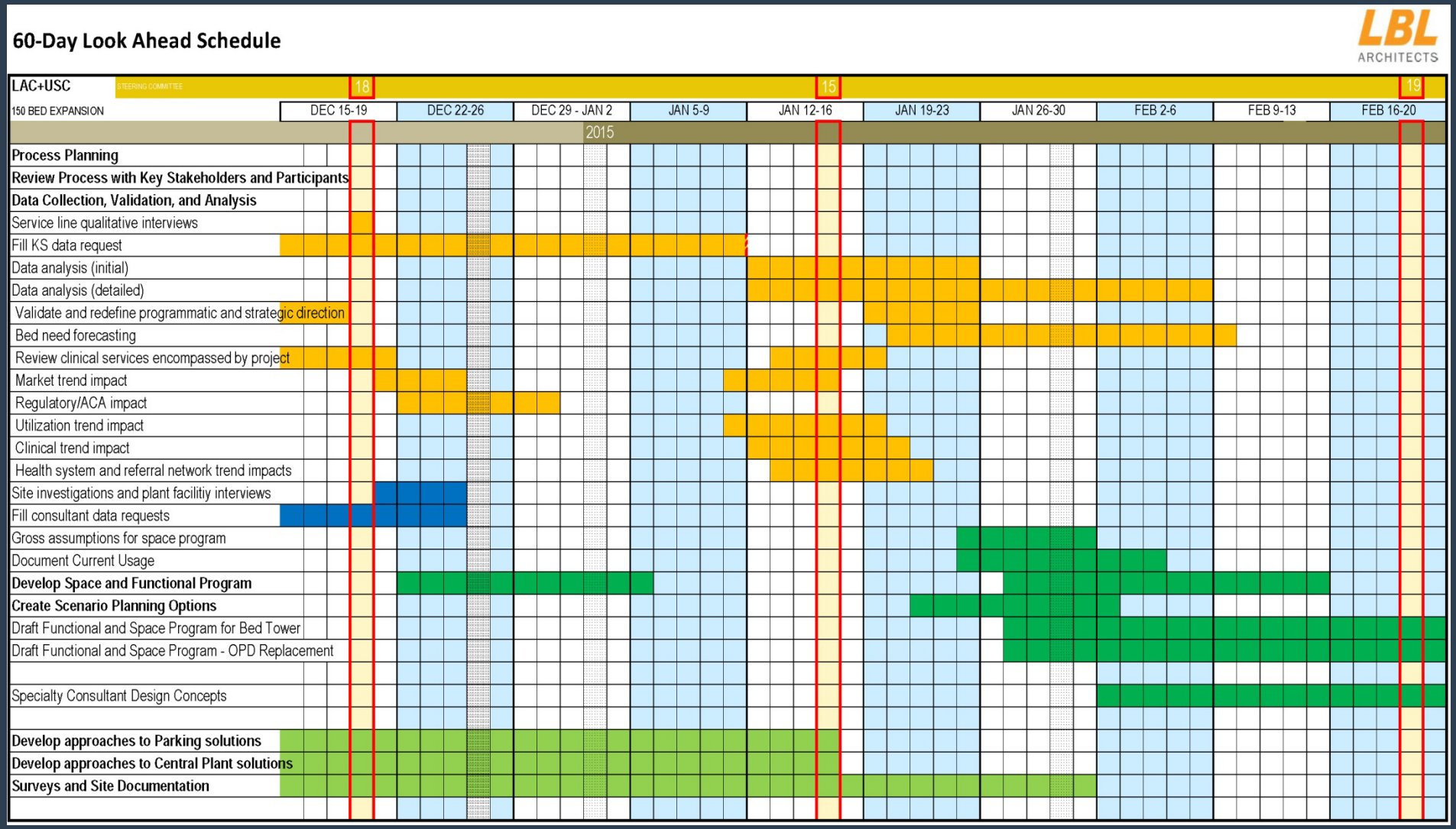
WORKPLAN

WORKPLAN SEQUENCE AND 60 DAY DETAIL



Anticipated Report Topics for January Briefing

January 15, 2015 1:00 p.m – 2:00 p.m.

Bed Tower and OPD

1. Discuss operational strengths and weaknesses and establish strategic goals
2. Review critical issues from initial data review and interviews
3. Establish parameters for bed mix and ancillary and support services
4. Discuss program focus for outpatient services.

Infrastructure

1. Chiller Capacity Study preliminary recommendations
2. Parking use and inventory study preliminary recommendations
3. Status of site investigations and survey

Concept Development

1. Preliminary analysis of cooling system capacity data
2. Status of site survey and sub-surface/geotechnical investigations
3. Preliminary assessment of utility capacity

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Discussion

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Architecture & Planning

Los Angeles | San Francisco

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